



## RESEARCH ARTICLE

### AN EVALUATION OF THE EFFECTIVENESS OF THE MESSAGES USED TO CAMPAIGN AGAINST IMPROPER DISPOSAL OF WASTE IN KAYOLE, NAIROBI CITY, KENYA

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#### ARTICLE INFO

##### Article History:

Received 16<sup>th</sup> October, 2023

Received in revised form

19<sup>th</sup> November, 2023

Accepted 26<sup>th</sup> December, 2023

Published online 18<sup>th</sup> January, 2024

##### Key words:

Implication, Implicature, Management, Maxims, Menace, Ramifications.

#### ABSTRACT

Despite the fact that waste is a main environmental menace which has ramifications on a people and their habitat, waste disposal is an activity that is relegated to the periphery in developing nations. A possible explanation for this relegation is the huge financial implication that waste management has, yet most of these developing nations have massive financial obligations in other more pressing sectors such as education and health. Additionally, there is limited political amity as well as inadequate institutional capacity to address the waste disposal problem. The burden of managing waste is increasing globally with developing nations struggling to remain afloat having had to bear the consequences of poor waste disposal. It is against this context that this study sought to evaluate the effectiveness of messages used to campaign against improper disposal of waste. Using Grice's (1975) theory of implicature, the study investigated whether the messages used to campaign against improper disposal of waste obey or violate the maxims. It also sought to establish whether there was a difference in impact in the campaign messages relayed in English and Kiswahili. This study was carried out in Nairobi, specifically Kayole, a low-income residential estate. The study adopted a qualitative research design and both primary and secondary data were used. The study found out that certain conversational maxims were violated in both the spoken and written messages. However, the spoken messages were well communicated as compared to the written ones leading to better interpretation by the respondents. The study also found out that the impact of the messages conveyed in English was more significant in comparison to those in Kiswahili.

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## INTRODUCTION

The population of the third world countries is growing at a very high rate. This is partly because of improved health care and general quality of life (Kimei 2006). According to WHO (1994), increased population has forced people to move from rural to urban centers in search of better livelihoods. Consequently, urban populations have exponentially grown, leading to the mushrooming of informal settlements in most urban centers. The high population growth brings with it increased demands for goods and services which has necessitated the use of alternative means to produce goods and render services. This is usually accompanied by increased waste generation and demand for appropriate disposal methods. According to WHO (1994), without effective intervention such changes can cause serious environmental problems. Waste management is a huge task for municipal governments and the general populations. National Environmental Management Authority (NEMA) is tasked with, among others, waste management in Kenya. Different types of wastes are generated on a daily basis.

These wastes are categorized differently for instance, some are categorized based on their sources while others on the physical states (Otieno et al., 2006; Omwoyo et al., 2006; NEMA, 2005). This study adopted the categorization based on physical states because it is more comprehensive than the one based on sources. Additionally, the study has confined itself to municipal solid waste since it is what most people handle. JICA (as cited in Mugo, 2019) defines Municipal Solid Waste as solid waste which consists of: business waste, household wastes of small amounts less than 50kgs, wastes produced from institutions such as markets, schools and hospitals that do not need to be treated and dead animals with an exception of domesticated animals. NEMA (1999) avers that waste generation and pollution contributes to serious damage to the environment, affecting both humans and animals. WHO (1994) gives an example of Bangkok where excessive exposure to lead causes 200,000 - 500,000 cases of hypertension, resulting in 400 deaths a year. In addition, rough estimates indicate that children with lead poisoning lose an average of 4 or more IQ points at the age of seven with long term implications for their productivity as adults. On the other hand, irresponsible dumping and poor handling of waste has also resulted in pollution of underground and surface water.

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The challenge of waste disposal is a global; many nations are grappling with the negative effects of poor waste disposal and if little is done to manage wastes, mortality and morbidity rates will continue rising. Irresponsible dumping habits have become an issue of concern in Nairobi and Kenya in general. According to Nzioka (2006), this has led to increased cases of respiratory and water borne diseases. One of the ways to slow down the trend is to pass information to the public about responsible dumping habits. One of strategies that has been employed in waste management is the use of campaigns to create awareness and to sensitize the populace on the importance of effective management of waste. NEMA has been sensitizing the public through the use of brochures, booklets, manuals, posters, and signposts for the written media and trainings, public meetings and sports for the spoken media. It has also worked closely with schools to advise and establish environmental clubs. In such campaigns, language plays a crucial role. However, only appropriate use of the language would yield the desired results. Hybel and Judy (2004) argue that new meanings are continually created by all of us as we change our ideas, feelings and activities. Further, when one is involved in communication, one does not always have a chance to clear up misunderstanding. Therefore, when one sets out to pass a message, one must organize one's thoughts and words carefully. It is against this context that this study sought to examine the effectiveness of the messages used to campaign against improper disposal of waste.

### Specific objectives

**This study sought to address the following specific objectives:**

- To investigate if the Grice's Conversational Maxims are obeyed or violated in the messages used to campaign against improper disposal of waste in Kayole, Nairobi City.
- To find out whether there is a difference in impact between the English and Kiswahili messages used to campaign against improper disposal of waste in Kayole, Nairobi City.

### Literature review and theoretical framework

The generation of large quantities of waste and the challenges of its disposal affect countries globally. According to McAllister (2015), as the world becomes more urbanized and developed, consumption rates are on the rise. As such, an inevitable consequence of more consumption is the rapid increase in the amount of solid waste that is produced. The increase in the amount of waste generated and the subsequent consequences of improper disposal of such waste are issues that most continents are grappling with. This is corroborated by Ali, Cotton and Westlake (2005) who reveal that waste quantities are increasing at an alarming rate and countries with rapid economic growth and large cities such as China and India are already struggling with the proper disposal of large quantities of solid waste. This is so because expenditure on collection, transportation and mechanization aimed at proper disposal of waste is on the rise. A similar observation is made by the United Nations (1995) who posit that the economic growth and urbanization experienced in many parts of the Asian and Pacific Region over the past 10-15 years, has significantly escalated the quantities of municipal solid waste

being generated in many cities, including Bangkok, Beijing, Mumbai, Calcutta, Colombo, Dhaka, Hanoi, Jakarta, Kuala Lumpur, Manila and Shanghai. According to World Bank (1999), Asian and Pacific Region currently produce some 1.5 million tonnes of Municipal Solid Waste (MSW) each day and this is expected to more than double by 2025. Studies done (Zerbock, 2003; Omwoyo et al. 2006; Otieno et al., 2006; Bameke & Sridhar, 1989) reveal that developing countries face more problems in management of waste compared to the developed countries. The problem is further compounded by rapid growth in population and urbanization, which adds greatly to the volume of waste being generated and to the demand for waste retrieval services in municipal areas. According to Muniafu and Otiato, (as cited in Mugo, 2019) improper waste disposal and accumulation results in increase of environmental diseases, environmental pollution, emission of foul smells and an unattractive environment. In a study conducted by the UN-Habitat and the Imperial College London (as cited in Mugo, 2019) it was concluded that organic waste is on average the most common type of waste produced in 20 cities in the world. Results from the study indicated that in high income areas, organic waste was about 29% of the total waste generated while in areas with middle-income earners, organic waste was about 54% of total waste generated and in low-income areas, organic waste contributed to 63% of total waste generated. Mugo (2019) opines that according to the 2012 report on Global solid waste management, by 2025 cities and urban centers in the world will generate over 2.8 billion tons of waste. This is more than twice the current amount of 1.3 billion tones especially in low income generating nations.

Medina (as cited in Mugo, 2019) postulates that threats posed by improper handling and disposal of solid wastes contribute to the high level of mortality and morbidity in developing countries. In a study conducted in Ghana by Mensah and Larbi (as cited Ali, Cotton & Westlake, 2005), the disposal of solid waste has always been an intractable problem throughout the country. Based on an estimated population of 18 million and an average daily waste generation per capita of 0.45 kg, Ghana generates annually about 3.0 million tons of solid waste. Accra, the capital and Kumasi, the second city, with a combined population of about 4 million and a floating population of about 2.5 million generate over 3,000 tons of solid waste daily. Almost all the collected quantities of wastes in Ghana depend on the "waste sink" function of the environment for assimilation. The conditions of waste disposal in Ghana are similar to those in many developing countries within the tropical climates.

Kenya just like other developing nations faces the challenge of waste management. Ng'ang'a (2012) posits that Kenyan towns are grappling with mounting solid waste and other environmental problems with socio-spatial inequalities in the distribution of the waste burden. The worsening solid waste disposal situation in Kenyan urban settlements is a cause for worry not only among the residents but also among different organizations that handle environmental issues. The waste disposal menace has received a lot of media attention with the frequent featuring of waste disposal issues in newspapers, TV and radio discussions. In addition, several Environmental Non-Governmental Organisations (ENGOS), institutions and individuals have expressed concerns about the deplorable solid waste situation in towns with communities complaining to the

authorities about waste that is engulfing their neighbourhoods and the health implications for their members. Rotich (as cited in Ng'ang'a, 2012) opines that a walk in the towns and their environs show visible aspects of the solid waste problem including accumulation of garbage, heavy street litter, waste-clogged drains and water bodies and stinking gutters. Ikiara et al. (as cited in Mugo, 2019) posit that the burden of managing waste is negatively impacted by the high rate of population growth in cities like Nairobi. Less than 26% of all solid wastes are collected on a daily basis in Nairobi. Troschinetz and Mihelcic (as cited in Mugo, 2019) note that the challenges that complicate waste management centers encompass poor sanitation, regulation implementation, limited financial support and lack of appropriate methods to manage wastes. The most common methods that are used to dispose waste in most developing countries is the use of dumping. According to World Bank (1999), uncontrolled, open dumping on the peripheries of many of the region's cities has resulted in the degradation of valuable land resources and the creation of long-term environmental and human health problems. Ikiara et al. (as cited in Mugo, 2019) opine that the global solid waste management report reveals that wetlands and low-lying lands form majority of the dumping site locations in many nations. Oyake (as cited in Mugo, 2019) posit that in developing countries, these sites are not protected from human access. They are left open and unfenced hence increasing the risk of human exposure to environmental and public health hazards.

To resolve the problem of improper waste disposal, developing countries need to adopt appropriate solid waste management strategies. This should be done in order to keep up with the strides that countries are making socio-economically. Nathanson (as cited in McAllister, 2015) opines that solid waste management has a long and convoluted history. Systems of SWM can trace their roots to ancient times. One of the first instances of waste management occurred in the 4th century A.D. with the Ancient Greeks having to deal with the multiple challenges of aligning waste removal systems with a growing population, lack of space, and sanitation problems. Waste management practices were very rudimentary with trash just being collected and transported to pits outside the city. It was not until urban populations boomed that garbage was viewed as a threat to human and environmental health. Several strategies have since been put in place to ensure appropriate management of such wastes.

McAllister (2015) argues that SWM is a multidimensional issue that incorporates political, institutional, social, environmental, and economic aspects. Improving SWM in developing countries requires efforts to raise public awareness, increase funding, build expertise, and invest in infrastructure. To make progress, communities will need to embrace new systems for SWM that are participatory, contextually integrated, complex, and adaptive. Public awareness and sensitization of citizens are crucial in the fight against improper disposal of waste. In this regard, effective communication is vital so that messages on waste management reach as many people as possible. Adesina (2015) posits that communication is a social function which occurs whenever persons attribute significance to message related behaviour. Linguistic communication is a necessary condition for the existence of a human group. It enables one achieve a form of social organization (Adesina, 2015).

For communication to take place, language, a pivotal tool, must be put to use. Oketch (2006) argues that language emerges as a key factor in effective communication and implementation of community programmes. Klopff (as cited in Oketch, 2006) notes that language plays an important role in social change because it is the process by which persons share information, meanings, and feelings through the exchange of verbal and non-verbal messages. Language is pivotal because it carries information, makes meanings, communicates values, attitudes, feelings, ideologies and expresses power and dominion in the quest for development. (Oketch, 2006) argues that language is inevitably key to social processes and interactions which form the basis of human survival. A destruction of language or the denial of a people's language amounts to denying them the freedom to express themselves. In addition to this, language also plays an important role in maintaining the social order particularly when one considers its communicative function. Oketch (2006) argues that a number of scholars (Wodak and Meyer, 2001; van Dijk, 1998; Fairclough, 1996) have advanced the argument that language is socially situated in the sense that the texts that we encounter everyday are socially constructed, constituted and determined through language and by language. For this reason, if we want to understand social structures and social processes, then we must turn to language since it is language which constitutes such phenomenon.

In the campaign against improper disposal of waste, National Environmental Management Authority (NEMA) and the Nairobi City Council (NCC) have come up with numerous slogans to fight improper disposal habits. Some of these slogans include: "keep Kenya clean" better known as "3K", "Gotta keep the city clean, use me" (normally written on dustbins), "do not dump" and "Jivunie mazingira safi." According to NEMA (2006), regulations and policies on waste management all require language as the main tool. This means that if such regulations and policies are not well worded, they will not pass on the information intended therefore, desired behaviour will not be achieved. NEMA (2005) notes that despite putting in place regulations and policies with regard to waste disposal, there is very limited waste reduction activity. This is attributed to factors such as increased demand for imported packaged food and lack of knowledge of proper waste disposal. Consequently, NEMA has launched an ongoing public education effort that addresses waste issues in schools through health extension services, but the impact is too small to produce a significant attitude change needed to increase public participation.

NEMA (2005) states that the main objective of targeting schools is to make children and students more aware of waste and environmental issues so that their behaviour and the habits of their families are changed in a way that benefits their environment. The primary and secondary school curriculum generally includes topics related to the environment and hygiene. Such topics may provide opportunities for imaginative thinking and participation. This participation helps in sensitizing people on waste management issues. Another group that is targeted according to UNEP (1999) is the general public since the main objective is to reduce negative effects on public health, the environment and the cost of management that results from unacceptable behaviour in relation to waste management.

Thus, public awareness campaigns require proper use of language and concerted efforts using a range of methods such as the use of brochures, booklets, manuals, posters, signposts, trainings, public gatherings, sports among other approaches.

**Theoretical framework:** This study employed Grice's theory of Implicature (1975). Grice's theory of implicature, referred to as the Conversational Implicature, states that in any conversation, the speaker and hearer are cooperatively contributing to a conversation. According to Grice (1975), such conversations are governed by a cooperative principle which says that it is imperative to make your contribution such as it is required, at the stage which it occurs, by the accepted purpose of direction of talk exchange in which one is engaged in. He suggests that this should happen for stretches of conversation involving mainly transfer of information, cooperating amounts to obeying (if only implicitly) certain conversational maxims such as quantity, quality, relevance and manner. These maxims are discussed below:

- **Quantity:** This maxim states that one needs to make his/her contribution as informative as required. Also, the contributions made should not be more informative than it is required. For example, in the slogan "Do not dump" some information is lacking. This is because people must dump, but the problem occurs when dumping is done irresponsibly. There is thus some information lacking in that slogan. The slogan therefore needs more information for correct interpretation. This violates the maxim of quantity.
- **Quality:** This maxim requires that one should not say what he/she believes is false. Further, one should not say that which he/she believes lacks adequate evidence. The slogan "Gotta keep clean, use me," is normally written on bins. There is no sufficient evidence as to why "me" in the slogan should be the bin. To a cleaner, "me" could refer to him or her. This slogan violates the maxim of quality.
- **Relevance:** This directs one to organize his/her utterances in such a way as to ensure their relevance in a conversational exchange. In the slogan "*usiychafue mazingira yako*," (do not pollute your environment) the message is very relevant because every human being requires a clean environment. However, most people are seen littering all over as if the message conveyed in the slogan is false.
- **Manner:** This maxim states that one should avoid obscurity of expressions and ambiguity, but instead aim at being brief and orderly. The slogan "*Mazingira Safi ni Haki yako*," (a clean environment is your right) could also mean that other people should make sure that the recipient's environment is clean. This responsibility is bestowed on others and not the recipient therefore, it fails to communicate because it is ambiguous. Grice further suggests that there is a set of over-circling assumptions guiding the conduct of conversation. This arises from basic ritual considerations and can be formulated as guidelines for efficient and effective use of language. This theory is relevant to this study because it attempts to explain how language is used to enhance efficiency in communication.

## METHODOLOGY

This study was carried out in Nairobi, specifically Kayole, a low-income residential estate.

The area was chosen for two reasons. Firstly, it has a high population which translates to a high amount of generated waste. Secondly, since it's a low-income area, there is improper waste disposal partly because most residents cannot afford the services of the companies contracted to collect garbage. This study adopted a qualitative research design since it is best suited in explaining human behaviour (Mugenda and Mugenda, 1999). This design was appropriate in evaluating the effectiveness of the language used to campaign against improper disposal of waste. Out of the eight estates classified as the low-income regions, simple random sampling was used to arrive at one estate in this case Kayole. This study used both secondary and primary data. The former was sampled from already existing items used to campaign against improper disposal of waste. These were both written and spoken. The messages appeared in English and Kiswahili. The latter on the other hand, came from the answers the originators of the sampled messages gave as their intended meaning and the answers of the sampled respondents. For the spoken discourse, two public meeting sessions and two training sessions were recorded. All the messages sampled came from NEMA because the organization has recorded tapes unlike NCC. Only recorded spoken sessions held in Nairobi, targeting Nairobi residents were sampled. Nairobi was sampled because Kayole is one of the low-income estates in Nairobi. Purposive sampling was used to ensure the content of the messages in each session was different.

The written data was classified in three categories: sign posts, posters and pamphlets. In each, two items were sampled; one in English and the other was in Kiswahili. The items in Kiswahili were translated to English because of the need to reach a wider audience who would otherwise be eliminated because of their lack of Kiswahili proficiency. Stratified sampling was used to obtain 5 posters written in English and 5 in Kiswahili. The same steps were repeated for the pamphlets and the sampled ones were labelled A and B. As for the signposts, the procedure was similar to the first two message items (posters and pamphlets) except for the fact that after stratified sampling, the sampled signposts were photographed and the pictures developed. This was because it was not practical to carry them. The selected pictures were labelled A for English and B for Kiswahili. All respondents who provided primary data were sampled from Kayole estate and the social variables of age, gender and educational level of the respondents were factored in. The employees from NEMA and NCC were also purposively sampled because most of the messages came from them. The data collection instrument that was used was an interview schedule. A total of 32 respondents were used in the study.

## DISCUSSION

In this study, the respondents' interpretations of the written messages were compared to the originators' intended meanings and using Grice's theory of conversational implicature, the study explained how conversational maxims were either flouted or obeyed. The study identified the following written messages and then analyzed them.

### SIGNPOSTS

The study examined two signposts. One was written in Kiswahili and the other one in English.

The one written in English was labelled SP<sub>A</sub> while the one written in Kiswahili was labelled SP<sub>B</sub>. Signpost SP<sub>A</sub> had the words "PLEASE KEEP YOUR ENVIRONMENT CLEAN, NEVER DUMP HERE." The designers of the signpost were NEMA through the Ministry of Environment and Mineral Resources. This signpost was erected in Kayole along the Nairobi River. NEMA set out to inform the public and especially those living along the river not to use the river as dumping ground not just because it had been cleaned. The signpost was erected at the time when the river was being cleaned. This was an initiative of the Ministry of Environment following a directive from the cabinet secretary concerned.

Signpost SP<sub>B</sub> was also designed by NEMA. It read "*Huduma Bora ni Haki Yako, Mazingira Safi ni Haki Yako*" (good service is your right). The words "Kenya Public Service Week" appeared at the top of the signpost. NEMA aimed at informing the public that staying in a clean environment is a right of every citizen. The institution was ready to work closely with Kenyans to achieve a clean environment. However, achieving the above-mentioned goal cannot be done by NEMA alone since it is a collective responsibility. This means that while NEMA has a duty of ensuring that the citizens stay in a clean environment, the public has to play its part by dumping responsibly.

The message was also simple and straight forward. Slobin (1979) states that when one is writing, it is important that the writer is concrete and straight forward. He adds that brevity and economy are important to avoid monotony. Taking into account Grice's (1975) theory of implicature, the study established that the maxim of quantity was obeyed. This is because the information was sufficient despite the limited number of words used. Secondly, the maxim of quality was also obeyed. The evidence of truthfulness was in the form of cleaning of the hitherto filthy river. Since many residents living along the river banks were using the river as dumping ground, the message could have made sense to them. The message was brief and clear as dictated by the maxim of manner, thus making the interpretation simple. Lastly, the maxim of relevance was obeyed. This is because the river was being cleaned by the government. It was not difficult for the people living along the river bank to relate the message with the cleaning that was going on at that time. This contributed to the overwhelming success of signpost SP<sub>A</sub>.

Signpost SP<sub>B</sub>, on the other hand, had the accuracy of 72%. This means that 28% of the respondents got the intention of the writer wrong. One explanation for the overwhelming success in message interpretation by the respondents is that the designer obeyed most of the maxims as required by Grice's (1975) theory of implicature. The maxim of quantity was obeyed by ensuring that the message is short but adequate. This means that little time was required to read the message hence it was appealing to the respondents. Coffin (1975) supports this and states that crowded words turn off the reader. Another maxim that was obeyed is that of quality. The respondents appreciate the truth in the fact that for a clean environment to be established, concerted efforts of varied stakeholders are required. One of the ways of doing this is ensuring that waste is disposed appropriately. Institutions like NEMA and NCC have to ensure that waste is managed in a way that people are not harmed.

This is one reality that the respondents could have identified with. Coffin (1975) argues that if the audience feels that the speaker is unaware of the realities facing them, even the greatest writer will not be condoned. The maxim of relevance was obeyed leading to correct interpretation of the message conveyed. Most residents linked the message conveyed with the uncollected waste in their estate and the poorly managed dumpsite. Most of the waste collected in Nairobi is dumped in the open Dandora dumpsite. This open dumping of garbage promotes the breeding of disease vectors such as flies, mosquitoes, cockroaches, rats, and other pests. Thus, people living in Kayole and other estates neighbouring Dandora are at a risk of contracting varied diseases. Moreover, their main source of water, (Nairobi River) passes through Kayole from Dandora as such, residents are also likely to suffer from water borne diseases. This is so because a large percentage of the garbage collected is dumped in the river.

On the contrary, the maxim of manner was violated because the designer was not clear about the intention of the message. He wanted to inform the public that while NEMA has a role in ensuring that waste is managed appropriately, the public also has a role in ensuring that waste is disposed appropriately. The designer however, relied a lot on the context, which unfortunately, only a few of the respondents understood. This explains why 28% of the respondents got the message wrong. They thought that the responsibility of getting a clean environment lay solely in the hands of NEMA and that they had no role to play. Coffin (1975) states that when one communicates in writing, one has no way of knowing how people will react, so, one has to take extra care to avoid being misunderstood. He argues that the writer has to be specific so that the reader does not have to guess the meaning of written messages. Coffin (1975) adds that since any written message is a one-way communication, it is important for the writer to cover his/her entire story and state clearly and completely what he/she expects.

## PAMPHLETS

The study analyzed two pamphlets; one in English and the other one in Kiswahili. The English pamphlet was labelled PL<sub>A</sub> while the Kiswahili one was labelled PL<sub>B</sub>. Both pamphlets were from NEMA. Pamphlet PL<sub>A</sub> was about the Environment and Coordination (waste management) Regulations Act. It was meant for waste transporters. The pamphlet contained the conditions which should be adhered to by licensed waste transporters. NEMA required that those with the responsibility of collecting waste should not cause any further littering. Additionally, no stench should be emitted by the waste during transportation and the vehicles transporting waste should only follow the routes approved by the government from the point of collection to the point of disposal. The pamphlet also sought to inform the transporters to collect waste from a designated area of operation and deliver such waste to the designated sites. The pamphlet had the picture of a truck carrying waste and another of the same truck offloading waste in an open site. Pamphlet PL<sub>B</sub> which was in Kiswahili aimed at enlightening the public about the roles of NEMA. NEMA seeks to ensure that any organization which engages in activities that directly or indirectly destroy the environment does so in such a way that the environment is minimally affected. An alert should also be sounded to the public in advance about such effects.

NEMA also seeks to liaise with other organizations to sensitize the public on the importance of a clean environment. Moreover, NEMA encourages public participation on matters concerning the environment. Additionally, it gives an annual report on the state of environment and allows any organization that concerns itself with the environment to do the same. In sum, NEMA has been given authority to take care of the environment in all aspects and advise the government appropriately if need be.

#### **A sample of the respondents' interpretation of the messages in pamphlets are as follows:**

*No person shall be granted a license under the act to transport waste unless such a person operates a transportation vehicle approved by the authority upon the recommendation of the relevant lead agency.*

The samples represent just two of the many regulations contained in pamphlet PL<sub>A</sub>. The language used is simple and clear, obeying the maxim of manner. The maxim of relevance is also obeyed because many people who claim to transport waste do not even own a vehicle, and if they do, the vehicle is not approved because it is not roadworthy. Most people who claim to transport waste do that because of monetary gains and not because they are equipped to transport the waste. The respondents were able to contextualize the message, accounting for a high number of correct interpretations. This message was therefore very relevant.

The maxim of quality was obeyed. Many trucks which transport waste end up littering the environment enroute the designated disposal areas. More so, a lot of stench is emitted from such vehicles during transportation. Since this experience is common to most residents of Nairobi, they did not find any problem relating the message to their daily experiences. However, the message item was very detailed, thereby violating the maxim of quantity. Most of the respondents who got the interpretation wrong were probably put off by the detailed pamphlets. Most of them were seen answering the questions even before attempting to read the pamphlets. Some looked at the picture of the lorry and stated that NEMA was showing the public how waste is transported.

Pamphlet PL<sub>B</sub> on the other hand, was not only detailed but the language used was also difficult to comprehend. It runs in part:

*Halmashauri imepewa uwezo wa kuchunguza na kuratibu maswala yote yanayohusu mazingira na kuwa mshauri mkuu wa serikali katika utekelezaji wa sera zote za mazingira* (The Authority has been given the mandate to investigate and coordinate all environmental issues and be the main advisor to the government on the implementation of all environmental policies).

The vocabulary used in this pamphlet is complex; it required one to have some reference material in order to get the meaning of some of the key words used like the ones underlined. This means that the maxim of manner as well as that of quantity were violated. Just like the pamphlet written in English, the Kiswahili one was also very detailed. This may have put off the readers leading to misinterpretations. Watts (1989) says that a writer who uses a lot of details to put a point

across risks losing the reader. The pamphlets were very detailed, an attribute that could have reduced their communicative ability. The maxim of quality was however, obeyed. This is because NEMA has been given the mandate by the government to conserve the environment on its behalf. This was evident during the cleaning of Nairobi River where NEMA was in the forefront during campaigns as well as in the actual cleaning process. The actions of NEMA could have contributed to the respondents' contextualization of the message leading to correct interpretation. Lastly, the maxim of relevance was obeyed. This is because the pamphlet talks about NEMA joining hands with other organizations that have the same goal to educate the public on the importance of a clean environment. This was relevant because as the saying goes, 'two hands are better than one.' It is easier to achieve a clean environment if all of us take part. Hayes (1998) says that words can build or destroy. He says that words can be used to convey a strong message to the audience like inspiring them to action. This means that the words should not be handled casually since they may have repercussions. Trudgill (1983) says that the level of education of an individual is reflected in the language he/she uses. A learned person does speak a different variety from the one who is not. However, the designers of the pamphlets did not take this into account.

#### **POSTERS**

The study had two posters which were from NCC. The poster written in English was labelled P<sub>A</sub> and had the words "our environment our life, preserve it." Several pictures in the form of empty packets, tins and boxes which could be seen littered all over, accompanied the words. There were also pictures of rats, possibly as a result of an unclean environment. In another picture, a sad looking lady could be seen lying down. The interpretation of this picture was that she may have fallen sick because of the dirty environment. The designer of the poster set to inform the public that our life depends on the environment and if we destroy our environment, we destroy our lives too. Poster P<sub>B</sub> was written in Kiswahili. It had the words "*usitupe takataka ovyo*" (do not throw litter anyhow). Accompanying the words were pictures of waste littered all over. A picture of a person emptying a dustbin in an open field as well as another picture of a person pouring waste in a dust bin could be seen. The last picture was of a person sweeping a dirty floor and fire could be seen burning. The designers of the poster set out to communicate to the public to throw waste only in designated places for easier management. The two posters were given to the respondents for interpretation.

The poster in English which had the words "Our Environment, Our Life, preserve it" obeyed the maxim of quantity. The message was brief and to the point. The picture summarized the message well. The maxim of relevance was also obeyed probably because many respondents who got the interpretation right were able to link the picture of a sad looking lady with the litter around her. The maxim of manner was also obeyed as the vocabulary used was simple and to the point. Lastly, the maxim of quality was obeyed. This is because we depend on the environment for survival. A dirty environment could be a breeding ground for disease causing vectors such as insects and fleas. Such an environment could lead to diseases like cholera which could in turn lead to death.

Those who wrongly interpreted the message could not see the connection between the environment and life. They were also unable to relate the message to the disposal of waste instead, they talked about conserving the environment in a general sense. Doughty (1973) states that communication takes place in a context or setting. Sometimes the context is so natural that we hardly notice it. At other times, the context makes such an impression on us that it exerts considerable control over our behaviour. This means that not everyone was able to associate the sad looking lady with the words used in order to get the correct interpretation of the message. Poster P<sub>B</sub> which had the words "*Usitupe takataka ovyo*" (do not throw litter anyhow) was accompanied by pictures. In this poster, the maxim of quantity was obeyed because the posters had very few words and yet the message was very clear. Watts (1989) says that when we communicate, we have to consider how much the audience will understand the message. If things are very complicated, a person will perceive what he/she subconsciously wants to perceive. Hayes (1998) says that our messages should be of benefit to our readers and not for our own satisfaction. This means that if one designs any message, one should try to satisfy the reader and not himself/herself. In this poster P<sub>B</sub>, the writer of the message simplified it yet managed to communicate without any ambiguity, thus obeying the maxim of manner. The maxim of quality was also obeyed in the sense that the audience understood the fact that careless throwing of waste can endanger the lives of human beings. It is also a common habit in Kenya, where people throw waste anywhere even through the windows of their houses, without minding others. This is the case especially in the low-income areas in Nairobi. the maxim of relevance was also obeyed since the respondents related the message to some common experiences in the low-income estates.

## SPOKEN MESSAGES

The spoken messages were in the form of two training and two public meeting sessions. Half of these were in Kiswahili and the other in English.

**TRAINING SESSIONS:** The study had two training sessions, labelled TS<sub>A</sub> and TS<sub>B</sub>. Both sessions were organized by NEMA in a bid to sensitize people against improper disposal of waste. The sessions were developed by NEMA in the form of curricula. Session TS<sub>A</sub> was on how to make a compost heap. It was aimed at showing the public how they can turn waste into something valuable. Session TS<sub>B</sub> talked about how young people can come together to form groups which can be contracted by the city council or NEMA. The two recorded training sessions were played to the respondents. Session TS<sub>A</sub> was about the making of compost manure from waste generated in our homes. The speaker of the message used language that could be understood by all respondents. The speaker gave a step-by-step account of how to make a compost heap. The ideas in this message were well ordered, thus obeying the maxim of manner. Another maxim that was obeyed was that of relevance. This is because the message came at a time when Kenyans were experiencing hard economic times. Therefore, ways of making extra coins are highly welcome. The message was very relevant in the prevailing economic times. Additionally, the message was also believable since the materials required for making compost manure are readily available.

The maxim of quality was obeyed because the idea was not only trustworthy but people were also eager to try out any new ideas because of hard economic times. The maxim of quantity was however violated because the message was so long that many respondents switched off long before the speaker was through with the message. Those who got the message wrong just talked of managing waste, others argued that the message was about making an extra coin without saying how. Session TS<sub>B</sub> aimed at mobilizing the youth to form groups which can be contracted by the NCC or NEMA. Firstly, the maxim of quantity was obeyed since the message was very short yet the idea in it came out clearly. Secondly, the maxim of relevance was obeyed because the message came at a time when the government had initiated the *Kazi Kwa Vijana* (KKV) programme which encourages young people to do some work for payment. The respondents related the message to the programme leading to a better understanding. Thirdly, the maxim of quality was obeyed because the truth of the matter is that many youths are unemployed thus, they idle in the estates. The idea of coming together to form groups which can collect waste at a fee was timely. This came as a solution to the problem of unemployment that youths in general and those in low-income areas in particular, encounter. Lastly, the maxim of manner was also obeyed. This is because of the clarity of the message. However, a few who got the message wrong were giving general responses. Some argued that NEMA and NCC were laying down the strategies of managing waste, some just talked about keeping the environment clean. This was too vague, given that the messages were very specific. As for the session labelled PB<sub>A</sub>, the maxim of quantity was obeyed. The message was short and the points were spelt out clearly. The speaker managed to achieve this by highlighting the main points in the message while avoiding unnecessary details which could confuse the listeners. The maxim of relevance was also obeyed because the problem of improper disposal of plastic bags is rampant. This means a good number of the audience have experienced blockage of drainage systems because of plastics. The message was therefore relevant to the respondents.

The maxim of manner was also obeyed because the writer used simple language. There was a systematic arrangement of words which led to a logical flow of the message. The speaker spelt out clearly the consequences of improper disposal of plastic bags. Lastly, the maxim of quality was also obeyed. This is because plastic cannot rot and can store water for a long time, thus becoming a breeding ground for mosquitoes. Given that most residents have fallen sick because of the bites from these insects, accepting the message was easy. However, a few respondents got the interpretation wrong. While the message was clearly about plastic bags and their dangers, some talked about waste in general thus missing the point. Session PB<sub>B</sub>, which was about recycling waste materials, obeyed the maxim of quantity. The speaker avoided unnecessary details and relayed the message in a very clear, precise and straight forward way. The speaker also used the least amount of time, something that could have made the message appealing to the respondents. The maxim of quality was also obeyed since the message talked about recycling of waste materials. For instance, broken bottles can be used on perimeter walls to enhance security. Ornaments can be made from recycled materials. According to Mukey (2009), ornaments that are made from biodegradable waste are a hot sell in the export market.



Also, most products bought from the shops come in containers and most of these containers are used to store water, sugar and salt in our homes. The respondents related the message to their experiences leading to a better understanding. The maxim of manner was also obeyed. The language used was very simple and clear. This means that the respondents required little effort to understand what the message was all about. Despite the message being clear, some respondents got it wrong. They talked about ways of keeping the environment clean without talking about recycling. From the discussions, it is evident that the spoken messages were well communicated leading to better interpretation by the respondents. This is despite the fact that some maxims were violated. The study also sought to find out whether there is a difference in impact between the Kiswahili and English messages used to campaign against improper disposal of waste in Kayole, Nairobi City. The computed value for chi-square is 16.44. This is way above its critical value. This shows clearly that the difference in impact is significant not because of chance fluctuations. The English messages had 91.67 correct interpretations compared to Kiswahili which had 79.86%. Doughty (1973) states that the writer's/speaker's view of his/her audience must strongly determine his/her way of communicating. When the objective is to convey a body of information, this aspect of the writer's task is so important that the success of his/her efforts largely depends on judging the needs of the audience accurately. However, this is not always the case.

Both pamphlets were very detailed. The one written in Kiswahili was not only detailed, but some of the terms used required a reader to have a good command of standard Kiswahili. This worked against the message items because a lot of time was required for one to finish going through them. In addition, many Kenyans speak "sheng," or other non-standard varieties of Kiswahili. The variety used in this message items is only spoken by a few Kenyans. This explains why the pamphlet written in Kiswahili did not perform well as the one in English. In general, English messages items performed better than Kiswahili ones. The difference in performance of the message items written in the two languages is attributed to attitude. Rubin (1971) states that the status of English as a world language has guaranteed it prestige among the educated and those aspiring for distinction. In a scenario where a high population has received primary education, English may well take over the role of Kiswahili. This explains why English is spoken in many homes where parents are literate. They want to be identified with the language that is prestigious and is also on the world map. This could have worked against Kiswahili. Doughty (1973) adds that a text needs to rely on the knowledge and attitudes of the audience if it is to successfully convey the information it contains. This means that apart from the attitude problem, some texts were way above the understanding of the audience. Women had 87% correct interpretation while men had 82%. This could be because of the women's sensitivity to linguistic forms. Another reason for the difference in interpretation is given by Rubin (1971) who claims that this could be because of women's insecure social position thus using language as a means of compensation. English messages were preferred to Kiswahili ones since the target group are town dwellers. Kennedy (1984) supports this by stating that in Kenya, 80% of the town dwellers use English. He states that the incentive to acquire English and demonstrate competence is great since it is from this that economic and social status are

believed to flow. He further states that many young people who are encouraged to speak Kiswahili are quick to point out that those who are currently enjoying both wealth and power did not acquire it through the use of Kiswahili. Moreover, he asserts that good Kiswahili is not understood by Kenyans who live away from the coast. This could be a possible explanation as to why Kiswahili messages did not perform as well as those in English.

## CONCLUSION

Most of the respondents gave correct interpretations to the messages relayed to them. This means that the designers of the messages adhered to most maxims as stipulated by Grice's theory (1975). However, a few of the messages could be improved. Coffin (1975) argues that a message is always clearer if the sender is specific. He adds that when writing or speaking, one should make sure that each word contributes to the substance of the message. The designers of the pamphlets made the messages unnecessarily long, losing clarity in the process. In future, the messages in pamphlets should be made short and the font of the print larger. Also, a message like "Our environment, our life" should be made more specific so as to reduce room for guess work. Coffin (1975) says that when sending a message, one should make sure that the message doesn't raise more questions than answers.

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